

localities), we compared Peruvian specimens at the Louisiana State University Museum of Zoology from the following Departments: Cajamarca (2 males), Amazonas (2 males), San Martín (1 female), Huánuco (4 males, 4 females), Huánuco-Loreto (1 male, 1 female) and Ayacucho (2 males, 2 sex undetermined). The four Ayacucho specimens are from Huanhuachayo (12° 44'S, 73° 47'W) and represent the southernmost published record for the subspecies.

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Relationship of white facial feathering to age and locality in Peruvian *Cinnycerthia peruana*

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In a recent paper, Gochfeld (1979) draws attention to the intra-population variation in facial feathering in the Sepia-brown Wren *Cinnycerthia peruana*. He considered the presence of a buffy white forecrown patch in Peruvian populations as "intra-racial variation" and that as yet there was "no evidence on whether white feathering might be age related". Examination of Peruvian specimens of the Sepia-brown Wren in the Louisiana State University Museum

of Zoology (LSUMZ) and personal field observations in Peru suggest that white facial markings are both age related and geographically distinctive.

Further analysis, detailed below, of the LSUMZ data in Gochfeld's Table 1 and additional material collected in 1978 reveals that birds in juvenal and first basic plumages lack white facial feathering regardless of geographic locality. Wrens from northern Peru, south to central Dpto. Amazonas and northern Dpto. San Martin, never show white facial feathering regardless of age. However, breeding adults of the central Peruvian populations from southern Dpto. Amazonas (33 km northeast of Ingenio) on the west slope of the eastern Andes south through Dpto. Huanuco to Dpto. Ayacucho, exhibit white forecrowns, chin and orbital areas.

ANALYSIS OF LSUMZ SPECIMENS BY LOCALITIES

1. San Jose de Lourdes, 2200 m, Dpto. Cajamarca. A series of 9 specimens (7 ad., 2 imm.) including a family group has no white facial feathering.
2. Cordillera Colan, 2400 m, Dpto. Amazonas. Recently collected specimens (10 ad., 1 imm.) lack the extensive white facial feathering of central Peruvian forms. One specimen (LSUMZ 88567, skull ossified) has a few white feathers in the eye ring, perhaps evidence of introgression with southerly "white-headed" forms.
3. 10 km NE Abra Patricia, 1950 m, Dpto. San Martin. 8 specimens (6 ad., 2 imm.) show no sign of white facial feathering.
4. 33 km NE Ingenio, 2200 m, Dpto. Amazonas. 5 specimens (2 ad., 3 imm.) closely resemble the large series from Huanuco. 2 adults with ossified skulls, but pale lower mandible have white feathers around the eyes and one female (LSUMZ 82125) has incoming white feathers intermixed with brown on forecrown.
5. Cordillera Carpish (including Huaylaspampa), Dpto. Huanuco. The large series (28 ad., 12 imm.) provides fairly conclusive evidence of age relatedness of white facial feathering. 12 immatures distinguished by immature gonads, unossified skulls, pale lower mandibles and greyish crowns lacked white feathering. Non-breeding adults (13), often with some juvenal characteristics, and usually with unenlarged gonads, lack white facial feathering. Breeding adults (15) with dark bills, fully ossified skulls and enlarged gonads develop white feathers around the eyes and subsequently on the forecrown, chin and orbital region.
6. Yuraccyacu ($12^{\circ} 45' S$, $73^{\circ} 48' W$), 2600 m, Dpto. Ayacucho. A small series (3 ad., 2 imm.) resemble the Huanuco population (white facial feathering in adults).

In Peru, Sepia-brown Wrens are commonly encountered in groups that seem to be families composed of a breeding pair, 1-3 subadults apparently from the previous brood, and several juveniles (pers. ob.). Subadults may serve as nest helpers until they establish their own territories. Perhaps a progressive development of white head markings creates several phenotype classes that function in social signalling. Additional long term field studies are needed to resolve the many questions posed by this interesting species.

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